

黃金價格

```
In [1]: import pandas as pd
```

```
In [2]: df = pd.read_html('https://rate.bot.com.tw/gold/chart/year/TWD')
df = df[0]
df.index = pd.to_datetime(df['日期'])
df1 = df[['日期', '本行買入價格']]
df1
```

Out[2]:

	日期	本行買入價格
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日期		
2021-02-23	2021/02/23	1613
2021-02-22	2021/02/22	1594
2021-02-20	2021/02/20	1589
2021-02-19	2021/02/19	1580
2021-02-18	2021/02/18	1587
...
2020-03-02	2020/03/02	1539
2020-02-27	2020/02/27	1590
2020-02-26	2020/02/26	1593
2020-02-25	2020/02/25	1585
2020-02-24	2020/02/24	1621

250 rows × 2 columns

```
In [3]: df2 = df[['日期', '本行賣出價格']]
df2
```

Out[3]:

	日期	本行賣出價格
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日期		
2021-02-23	2021/02/23	1635
2021-02-22	2021/02/22	1616
2021-02-20	2021/02/20	1611
2021-02-19	2021/02/19	1601
2021-02-18	2021/02/18	1609
...
2020-03-02	2020/03/02	1558
2020-02-27	2020/02/27	1610
2020-02-26	2020/02/26	1613
2020-02-25	2020/02/25	1605
2020-02-24	2020/02/24	1641

250 rows × 2 columns

作圖觀察

```
In [4]: import matplotlib.pyplot as plt
import seaborn as sns
import seaborn; seaborn.set()
```

```
In [5]: avg = df1['本行買入價格'].mean()
avg2 = df2['本行賣出價格'].mean()

plt.subplots(figsize=(10, 5))
plt.plot(df1['本行買入價格'], label='BUY')
plt.axhline(y = avg, color='blue', ls='--', alpha=0.3, label='buy_avg')

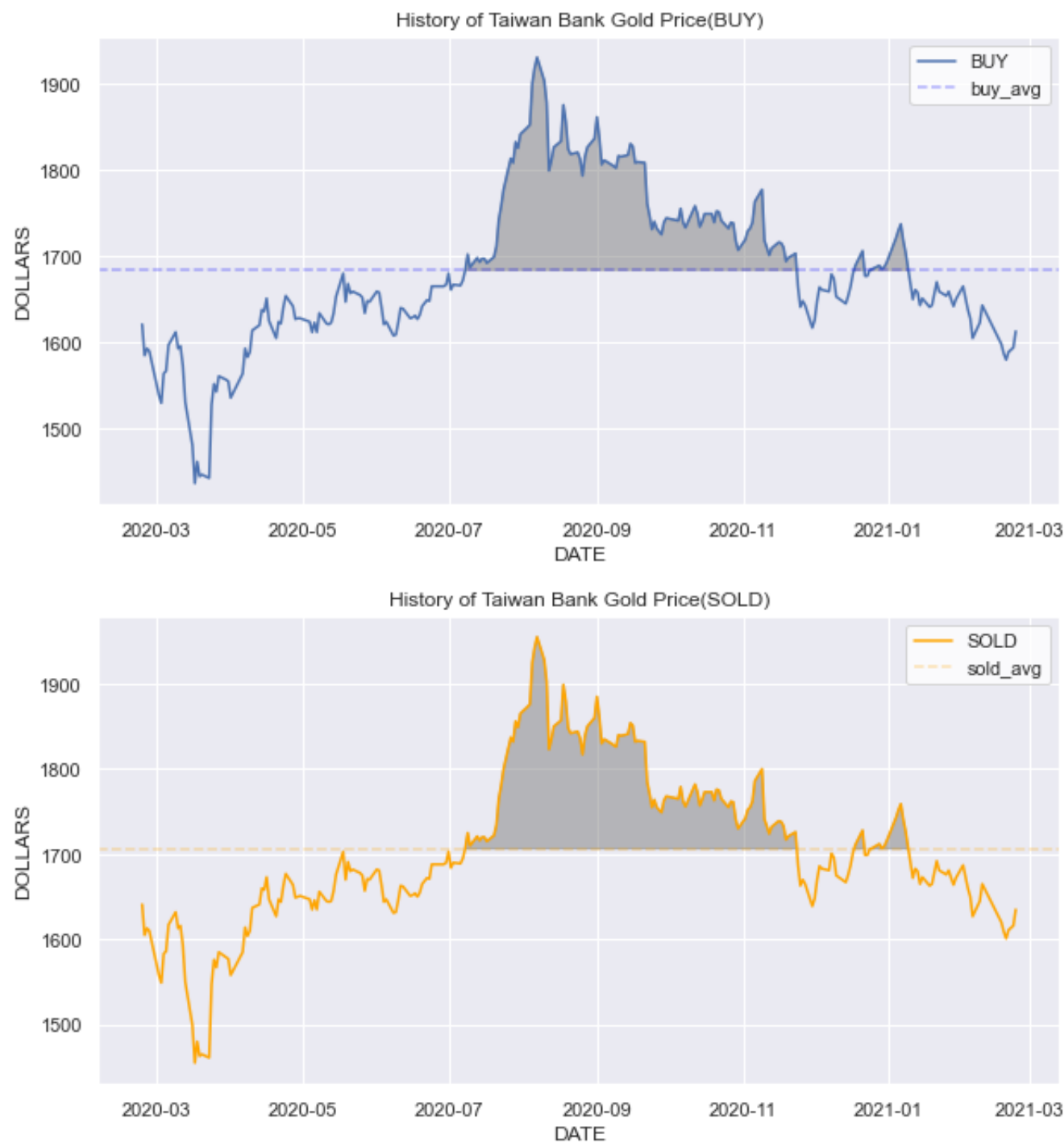
plt.fill_between(df1.index, avg, df1['本行買入價格'],
                 where=df1['本行買入價格']>=avg, color='gray',
                 alpha=0.5, interpolate=True)

plt.title('History of Taiwan Bank Gold Price(BUY)')
plt.xlabel('DATE')
plt.ylabel('DOLLARS')
plt.legend(facecolor='white')

plt.subplots(figsize=(10, 5))
plt.plot(df2['本行賣出價格'], label='SOLD', color='orange')
plt.axhline(y = avg2, color='orange', ls='--', alpha=0.3, label='sold_avg')

plt.fill_between(df2.index, avg2, df2['本行賣出價格'],
                 where=df2['本行賣出價格']>=avg2, color='gray',
                 alpha=0.5, interpolate=True)

plt.title('History of Taiwan Bank Gold Price(SOLD)')
plt.xlabel('DATE')
plt.ylabel('DOLLARS')
plt.legend(facecolor='white')
plt.show()
```



合併兩圖觀察相互之間的對應比較

```
In [6]: plt.subplots(figsize=(10, 5))
plt.plot(df1['本行買入價格'], label='BUY')
plt.axhline(y = avg, color='blue', ls='--', alpha=0.3, label='buy_avg')
plt.plot(df2['本行賣出價格'], label='SOLD')
plt.axhline(y = avg2, color='orange', ls='--', alpha=0.3, label='sold_avg')

plt.xlabel('DATE')
plt.ylabel('DOLLARS')
plt.title('History of Taiwan Bank Gold Price')
plt.legend(facecolor='white')
plt.show()
```

